

**REMARKS**

**INTRODUCTION**

Claims 1-19 are pending and under consideration.

Claims 1-19 stand rejected.

Claims 1, 5, 8-12, and 14 have been amended.

No new matter is being presented, and approval and entry are respectfully requested.

**ENTRY OF AMENDMENT UNDER 37 C.F.R. § 1.116**

Applicant requests entry of this Rule 116 Response because:

- (a) it is believed that the amendment of the claims puts this application into condition for allowance;
- (b) the amendments were not earlier presented because the Applicant believed in good faith that the cited prior art did not disclose the present invention as previously claimed;
- (c) the amendments to the claims should not entail any further search by the Examiner since no new features are being added or no new issues are being raised; and
- (d) the amendments do not significantly alter the scope of the claims and place the application at least into a better form for purposes of appeal. No new features or new issues are being raised.

The Manual of Patent Examining Procedures sets forth in Section 714.12 that "any amendment that would place the case either in condition for allowance or in better form for appeal may be entered." Moreover, Section 714.13 sets forth that "the Proposed Amendment should be given sufficient consideration to determine whether the claims are in condition for allowance and/or whether the issues on appeal are simplified." The Manual of Patent Examining Procedures further articulates that the reason for any non-entry should be explained expressly in the Advisory Action.

## REJECTIONS UNDER 35 USC § 102

In the Office Action, at pages 3-6, claims 1-5 and 7-14 were rejected under 35 U.S.C. § 102 as anticipated by Camacho. This rejection is traversed and reconsideration is requested.

In the Office Action, at pages 6, claims 19 was rejected under 35 U.S.C. § 102 as anticipated by Tatsumi.

### CLAIMS 1, 9, 11, 13, AND 14

Claims 1, 9, and 11 previously recited "placed". The rejection appears to give an overly broad interpretation of "place". Claims 1, 9, and 11 have been amended to recite that the third object (insertion object) is "placed by a two-dimensional movement to a predetermined position in relation to the first connector". Camacho discusses only selection or "checking" of an object (e.g. clicking). Camacho discusses an operator determining a point for inserting a node by selecting ("checking") on a branch or element. Camacho does not discuss selection (claim 8) or placement by a two-dimensional movement.

Claim 8 recites "two or more of the plurality of first connectors ... interactively and collectively selected by a two-dimensional movement relative to the plurality of first connectors". Claim 13 recites "an object being *moved* by the input device". Claim 14 recites "a displayed third object being interactively located by a two-dimensional movement into a predetermined position in relation to the first connector". "Located" is used here as a verb.

Withdrawal of the rejection of claims 1, 9, 11, 13, and 14 is respectfully requested.

### CLAIMS 5, 10, AND 12

Claims 5, 10, and 12 previously recited "an area ... designated by a user ... overlaps the first connector". The rejection cites only col. 6, lines 24 and 25 of Camacho. These lines indicate that with Camacho "[t]he effective production of a graph is obtained by successive insertion and/or destruction operations relative to the elements chosen by the user." The only method Camacho reveals for choosing an element for "insertion and/or destruction" is "checking" a branch. This is directly selecting an element where insertion is to occur. There is no area selected. A branch is the only thing checked/selected in Camacho, but a branch cannot be an "area", because an "area" is a "surface included within a set of lines" (Merriam-Webster's

Dictionary). A branch includes lines/connectors that can not be a surface within a set of lines. Claims 5, 10, and 12 have been amended to clarify that "the designated area overlaps the first connector and overlaps a portion of the display that is separate from the graph". If the rejection is treating a selected branch in Camacho as an "area", with one arc/edge of a selected branch as a "first connector" and the portions of the selected branch that are not the "first connector" being the "overlap", then the overlap cannot be supplied from an area that includes a portion of overlap that is separate from the graph. The selected branch is a part of the graph.

Withdrawal of the rejection of claims 5, 10, and 12 is respectfully requested.

## REJECTIONS UNDER 35 USC § 103

In the Office Action, at pages 8-10, claims 15-19 were rejected under 35 U.S.C. § 103 as being unpatentable over Camacho and further in view of Tatsumi.

### CLAIMS 15-19

Claim 19, for example, recites "determining that the location of the graphic node is in proximity to a connector connected to an existing node in the graph". Tatsumi was cited as providing this feature.

The rejection compared the Tatsumi reference to the drag/drop feature recited in claims 15-19. In particular, the rejection cites col. 5, lines 40-60 of Tatsumi. This portion of Tatsumi discusses only dragging a node (child or grandchild) and connecting the child to another node; "**retrieval means 11 retrieves the proximate object 22b (node) to which two grandchild objects (nodes) 23b and 23c are to be connected**". Claim 15, for example, recites "dragging the node over or near a *line connecting the existing nodes*", or "dropping the node onto or near the *line*". Tatsumi not discuss proximity to a connector.

Furthermore, Tatsumi states at the bottom of column 5 that "[a]s a result, a state that two grandchild objects 23b and 23c during move and the proximate child object 22b are connected with lines". Tatsumi also describes re-parenting a moving node to a closest object/node; "a single object [node] possible to be a [new] parent [of the moving node] ... at a position, for example closest to the selected object [node] being moved is retrieved [selected]" (col. 2, lines

5-9). Figure 15 of Tatsumi shows a menu-driven equivalent of the re-parenting process, where a menu is used to "CONNECT TO THIS NODE", where a node is not a connector.

Because Tatsumi is related only to changing the parent node of a node in a tree-type graph, there is neither discussion of nor need for inserting a node between two connected nodes by drag or drop selection of a connector. Node insertion is not implied because a node that serves as a new parent to the moved node can continue to maintain its previous parent-child relations.

In sum, The Office Action characterizes Tatsumi as teaching "insertion of nodes by one of dragging or dropping". Tatsumi does not discuss node insertion, which is an established term of art for describing splitting an edge with a new node. Tatsumi only relates to selecting a new parent node. Changing the parent of a node is not the same as inserting a node. This difference appears, for example, in claim 15, which recites interactively inserting "a node between existing edge-connected nodes of a displayed graph". Tatsumi does not discuss such an interactive insertion operation, and Camacho was not cited for the same.

Withdrawal of the rejection of claims 15-18 is respectfully requested.

## DEPENDENT CLAIMS

The dependent claims are deemed patentable due at least to their dependence from allowable independent claims. These claims are also patentable due to their recitation of independently distinguishing features.

## CONCLUSION

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

**IN THE CLAIMS:**

Please AMEND the claims in accordance with the following:

1. (THREE TIMES AMENDED) A graphic editing apparatus, comprising:
  - a display unit displaying a graphic including a first object and a second object which are connected with each other using a first connector, where the first object, second object, and first connector are all displayed on a display screen; and
  - an interactive graphical editing unit responding to a third object having been interactively placed by a two-dimensional movement to [in] a predetermined position in relation to the first connector after the first object, second object, and first connector have been displayed, by automatically creating and displaying a second connector for connecting the displayed first object and the third object and a third connector for connecting the displayed third object and the second object.
2. (AS ONCE AMENDED) The graphic editing apparatus according to claim 1, wherein when the first connector and the third object overlap each other, said interactive graphical editing unit automatically creates and displays the second and third connectors.
3. (AS ONCE AMENDED) The graphic editing apparatus according to claim 1, further comprising:
  - a judgment unit judging automatically whether a distance between the first object and the second object is sufficient to accommodate the third object between them; and
  - a shift unit, if the distance is not sufficient, automatically shifting at least one of the first and second objects.
4. (AS UNAMENDED) The graphic editing apparatus according to claim 1, further comprising a management unit managing a subordinate relationship between objects, and
  - the management unit, if the second object is subordinated to the first object before the third object is inserted between the first object and the second object, subordinating the third object to the first object and subordinating the second object to the third object.

5. (THREE TIMES AMENDED) A graphic editing apparatus, comprising:

a display unit displaying a [graphic] graph including a first object and a second object which are connected with each other using a first connector, where the first object, second object, and first connector are all displayed on a display screen; and

an interactive graphical editing unit, when an area on the display screen is designated by a user of said graphic editing apparatus and the designated area overlaps the first connector and overlaps a portion of the display that is separate from the graph, the first connector is interactively selected after the first object, second object, and first connector have been displayed, automatically creating and displaying a second connector for connecting the displayed first object and the third object and a third connector for connecting the displayed third object and the second object.

6. (AS ONCE AMENDED) The graphic editing apparatus according to claim 5, wherein said interactive editing unit automatically shifts the displayed second object, displays the third object in a position where the second object was displayed before the first connector is interactively selected, and stops displaying the first connector.

7. (AS ONCE AMENDED) The graphic editing apparatus according to claim 5, further comprising a coordinate system providing unit providing a virtual coordinate system defining boxes, in which each box is defined as area for displaying one object, wherein

said display unit displays each object using the virtual coordinate system, and said interactive editing unit locates each object using the virtual coordinate system.

8. (THREE TIMES AMENDED) A graphic editing apparatus, comprising:

a display unit displaying a first object, a plurality of second objects and a plurality of first connectors for connecting the first object and the plurality of second objects, where the first object, the plurality of second objects, and the plurality of first connectors are all displayed on a display screen; and

an interactive graphical editing unit responding to [one] two or more of the plurality of first connectors having been interactively and collectively selected by a two-dimensional movement

relative to the plurality of first connectors after the first object, the plurality of second objects, and the plurality of first connectors have been displayed, by automatically creating and displaying a second connector for connecting the displayed first object and the third object, and [one] two or more third connectors for connecting [one] two or more of the displayed second objects connected to the interactively selected first connector and the third object.

9. (THREE TIMES AMENDED) A graphic editing method, comprising:

displaying a graphic including a first object and a second object which are connected with each other using a first connector, where the first object, second object, and first connector are all displayed on a display screen; and

in response to a third object having been interactively placed by a two-dimensional movement to [in] a predetermined position in relation to the first connector after the first object, second object, and first connector have been displayed, automatically creating and displaying a second connector for connecting the displayed first object and the third object and a third connector for connecting the third object and the second object.

10. (THREE TIMES AMENDED) A graphic editing method:

displaying a [graphic] graph including a first object and a second object which are connected with each other using a first connector, where the first object, the second object, and the first connector are all displayed on a display screen; and

after the first object, second object, and first connector have been displayed and when an area on the display screen is designated by a user of said graphic editing apparatus and the designated area overlaps the first connector and overlaps a portion of the display that is separate from the graph the first connector is interactively selected, automatically creating and displaying a second connector for connecting the first object and the third object and a third connector for connecting the third object and the second object.

11. (THREE TIMES AMENDED) A storage medium on which a program enabling a computer to execute a process is stored, the process comprising:

displaying a graphic including a first object and a second object which are connected with each other using a first connector, where the first object, the second object, and the first

connector are all displayed on a display screen; and

after the first object, second object, and first connector have been displayed and in response to a third object having been interactively placed by a two-dimensional movement to [in] a predetermined position in relation to the first connector, creating and displaying a second connector for connecting the displayed first object and the third object and a third connector for connecting the third object and the second object.

12. (THREE TIMES AMENDED) A storage medium on which a program enabling a computer to execute a process is stored, the process comprising:

displaying a [graphic] graph including a first object and a second object which are connected with each other using a first connector, where the first object, the second object, and the first connector are all displayed on a display screen; and

after the first object, second object, and first connector have been displayed and when an area on the display screen is designated by a user of said graphic editing apparatus and the designated area overlaps the first connector and overlaps a portion of the display that is separate from the graph the first connector is interactively selected, automatically creating and displaying a second connector for connecting the displayed first object and the third object and a third connector for connecting the displayed third object and the second object.

13. (TWICE AMENDED) A method of interactively graphically inserting a node into a displayed graph comprising displayed nodes and connectors graphically connecting the nodes, said method comprising:

interactively determining a displayed first connection in the displayed graph by comparing a position of the first connection with a position of an object being moved by the input device, where the displayed first connection connects a first displayed node and a second displayed node of the displayed graph; and

responsive to said interactive determining, automatically displaying and inserting the insertion node into the graph by automatically creating and displaying a second connection connecting the insertion node to the displayed first node, and by automatically creating and displaying a third connection connecting the insertion node to the displayed second node.

14. (TWICE AMENDED) A graphic editing apparatus, comprising:  
a display unit displaying a first object, a second object, and a first connector, the objects  
being graphically connected with each other by the first connector; and  
an editing unit, responsive to a displayed third object being interactively located by a two-  
dimensional movement into a predetermined position in relation to the first connector, and in  
response to the interactive locating, creating for display a second connector graphically  
connecting the displayed first object and the displayed third object, and creating a third  
connector graphically connecting the third object and the second object, where the second and  
third connectors reflect the third object being newly related to the first and second objects.

15. (ONCE AMENDED) A method, comprising:  
interacting with a graphical user interface to insert a node between existing edge-  
connected nodes of a displayed graph by one of (1) dragging the node over or near a line  
connecting the existing nodes and (2) dropping the node onto or near the line; and  
responsive to interactively inserting the node, automatically displaying new lines in the  
graph and automatically undisplaying the line connecting the existing nodes, where the  
displaying and undisplaying reflects changes to edges of the graph caused by the interactive  
inserting.

16. (ONCE AMENDED) A method, comprising:  
storing a graph data structure comprising first node data, second node data, and first  
relationship data logically relating the first node data to the second node data;  
displaying first and second graphical nodes portraying the first node data and the second  
node data, and displaying a first graphical line portraying the first relationship data by graphically  
connecting the first and second graphical nodes;  
after said displaying, interactively selecting the first displayed line by one of (1) dragging  
a new node graphic over or near the first displayed line and (2) dropping the new node graphic  
onto or near the first displayed line, where the new node graphic has corresponding new node  
data; and  
in response to said interactive selecting: undisplaying the selected first line, adding to the  
graph data structure new relationship data that relates the new node data to the first node data

and the second node data, displaying a new first line and a new second line portraying the new relationship data and graphically connecting the new graphical node to the first and second graphical nodes.

17. (ONCE AMENDED) A method, comprising:
  - storing a graph data structure comprising a set of node variables and information logically interrelating the node variables;
  - displaying, with a graphical user interface (GUI), graphical nodes and graphical lines graphically connecting the graphical nodes, where the graphical nodes correspond to the node variables, and where the graphical lines correspond to the information logically relating the node variables;
  - after said displaying and storing, creating a new node variable, where the new node variable is unrelated to any other variables in the set of node variables, and where a third graphical node corresponds to the new node variable;
  - interacting with the GUI to select a first graphical line from among the displayed graphical lines by one of dragging the third graphical node over or near the first graphical line and dropping the third graphical node onto or near the first graphical line, where the selected first graphical line graphically connects a first and second of the displayed graphical nodes, where a first node variable from the set of node variables corresponds to the displayed first graphical node, where a second node variable from the set of variables corresponds to the displayed second graphical node, and where the displayed first graphical line represents some of the relating information that logically relates the first and second node variable; and
  - responsive to selecting the first graphical line, altering the logical relating information to logically unrelated the first and second node variables, causing the selected first line to be undisplayed, newly displaying the third graphical node corresponding to the new node variable, logically relating the new variable to first and second variables of the set of variables, newly displaying a first graphical line connecting the newly displayed third graphical node with the first graphical node, and newly displaying a second graphical line connecting the newly displayed third graphical node with the second graphical node.

18. (AS UNAMENDED) A method according to claim 11, wherein the interactive

placement comprises interactively selecting the first connector by one of (1) dragging the new node over or near the first connector and (2) dropping the new node onto or near the first connector.

19. (AS UNAMENDED) A method of inserting interactively and graphically connecting a node to a displayed graph, comprising:

displaying the graph;  
dragging a graphic node to change a location of the graphic node; and  
in response to automatically determining that the location of the graphic node is in proximity to a connector connected to an existing node in the graph, automatically displaying a new graph connector connecting the graphic node to the existing node.